



ABSTRACT

~~An object of the present invention is~~ Methods are provided to form a thin film reproducibly in a process for forming the thin film on the inner wall surface facing a space formed in a substrate by plasma CVD. A thin ~~film-22-film~~ is produced on an inner wall ~~surface-20b-surface~~ of a ~~substrate-20-substrate~~ facing a ~~space-23-space~~ formed in the ~~substrate-20-substrate~~. The ~~substrate-20-substrate~~ is contained in a chamber for plasma CVD process. A gas for plasma reaction is then flown into the ~~space-23-space~~ and a pulse voltage is applied on the ~~substrate-20-substrate~~ without substantially applying a direct bias voltage on the ~~substrate-20-substrate~~ to form the thin film on the inner wall ~~surface-20b-surface~~.